

12-1099

Form 3160-3
(March 2012)

OCD Artesia

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

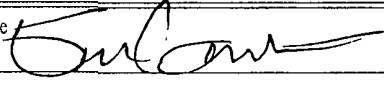
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM030456
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name TES 10/1/2012
2. Name of Operator Chesapeake, Agent for Bopco Contact: Erin Carson - erin.carson@chk.com		7. If Unit or CA Agreement, Name and No. NMNM071016X
3a. Address PO Box 18496 Oklahoma City, OK 73154-0496	3b. Phone No. (include area code) 405-935-2896	8. Lease Name and Well No. PLU Big Sinks 1 25 30 USA 1H <39486>
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface SESW Lot N 150FSL 1980FWL 32.152717 N Lat, 103.836142 W Lon At proposed prod. zone NENW Lot 3 330FNL 1980FWL 32.166067 N Lat, 103.836027 W Lon		9. API Well No. 30-015-40766
14. Distance in miles and direction from nearest town or post office* 30 miles from Loving, NM		10. Field and Pool, or Exploratory WC; G-06 S2530020; Bone Spring <97913>
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) 150 Ft from south section line	16. No. of acres in lease 2042.26	11. Sec., T. R. M. or Blk. and Survey or Area Sec 1 T25S R30E Mer NMP
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 1.374 from proposed lateral path	19. Proposed Depth 13924 MD 9272 TVD	12. County or Parish Eddy
21. Elevations (Show whether DF, KDB, RT, GL, etc) 3362 GL	22. Approximate date work will start* 11/01/2012	13. State NM
17. Spacing Unit dedicated to this well 160.50		
20. BLM/BIA Bond No. on file ESB000159		
23. Estimated duration 30 Days		

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM. |

25. Signature 	Name (Printed/Typed) Erin Carson	Date 08/28/2012
Title Regulatory Compliance Technician III		
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date SEP 26 2012
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

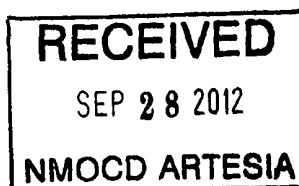
APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations AttachedSEE ATTACHED FOR
CONDITIONS OF APPROVAL

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3400 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-40766		² Pool Code 97913		³ Pool Name WC; G-06 S2530020; BONE SPRING	
⁴ Property Code 35486		⁵ Property Name PLU BIG SINKS 1 25 30 USA		⁶ Well Number 1H	
⁷ OGRID No. 147179		⁸ Operator Name CHESAPEAKE OPERATING, INC.		⁹ Elevation 3362'	

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	1	25S	30E		150'	SOUTH	1980'	WEST	EDDY

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
3	1	25S	30E		330'	NORTH	1980'	WEST	EDDY

¹² Dedicated Acres 160.50	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

Project Area Producing Area 163.16 ACRES PROPOSED BOTTOM HOLE LOCATION X= 653,885 NAD 27 Y= 424,492 LAT. 32.168067 LONG. 103.836027 X= 685,069 NAD83 Y= 424,550 LAT. 32.168191 LONG. 103.836510 PLU BIG SINKS 1 25 30 USA NO 1H WELL X= 653,871 NAD 27 Y= 419,835 LAT. 32.152717 LONG. 103.838142 X= 695,058 NAD83 Y= 419,693 LAT. 32.152841 LONG. 103.836824 ELEVATION +3362' NAVD 80 PROJECTED FIRST PERFS 330' FSL & 1980' FWL	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <i>Bryan Arrant</i> Date: 08/25/2012 Printed Name: bryan.arrant@chk.com E-mail Address:
	18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of geomatic surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date of Survey: June 25, 2012 Signature and Seal of Registered Professional Surveyor: <i>[Signature]</i> Certificate Number: #15078

OPERATOR: Please do not report production under this pool id code until OCD confirms perfs and appropriate pool designation on completion and C104 approvals.

EXHIBIT **A1**

ONSHORE ORDER NO. 1
Chesapeake Operating, Inc. Agent for BOPCO
PLU Big Sinks 1-25-30 USA 1H
Eddy, NM

CONFIDENTIAL -- TIGHT HOLE

DRILLING PLAN
PAGE: 1

OHSORE OIL & GAS ODER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (CFR 43, Part 3160) and the approved Application for Permit to Drill. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling and completion operations.

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease, which would entitle the applicant to conduct operations thereon.

1. **FORMATION TOPS**

The estimated tops of important geologic markers are as follows:

FORMATION	SUB-SEA	KBTVD	MD
Rustler	2410	970	
Top of Salt	2100	1280	
Base of Salt	-510	3890	
Lamar	-720	4100	
Bell Canyon	-739	4119	
Cherry Canyon	-1678	5058	
Brushy Canyon	-3261	6641	
Bone Spring	-4564	7944	
Lateral TD	-5892	9272	13924

2. **ESTIMATED DEPTH OF WATER, OIL, GAS & OTHER MINERAL BEARING FORMATIONS**

The estimated depths at which the top and bottom of the anticipated water, oil, gas, or other mineral bearing formations are expected to be encountered are as follows:

Substance	Formation	Depth
Water	Rustler	970
Oil/Gas	Brushy Canyon	6641
Oil/Gas	Bone Spring	7944

All shows of fresh water and minerals will be reported and protected.

3. BOP EQUIPMENT

Will have a 5000 psi rig stack (see proposed schematic) for drill out below surface casing. Stack will be tested as specified below. Surface casing and Intermediate Casing shoes will be tested to 10.5 ppg equivalent after drilling out 10' of new formation.

Chesapeake Operating Inc.'s minimum specifications for pressure control equipment are as follows:

I. BOP, Annular, Choke Manifold Pressure Test - See Exhibit F-1 and F-2

A. Equipment

1. The equipment to be tested includes all of the following that is installed on the well:
 - (a) Ram-type and annular preventers
 - (b) Choke manifolds and valves
 - (c) Kill lines and valves
 - (d) Upper and lower kelly cock valves, inside BOP's and safety valves

B. Frequency

1. All tests shall be performed with clear water
 - (a) when installed
 - (b) before drilling out each casing string
 - (c) at any time that there is a repair requiring a pressure seal to be broken in the assembly
 - (d) at least once every 30 days while drilling

C. Frequency

1. In some drilling operations, the pressures to be used for low and high pressure testing of preventers and casing may be different from those given below due to governmental regulations or approved local practices.
2. If an individual component does not test at the low pressure, do not test to the high pressure and then drop back down to the low pressure.
3. All valves located downstream of a valve being tested must be placed in the open position.
4. All equipment will be tested with an initial "low pressure" test at 250 psi.
5. The subsequent "high pressure" test will be conducted at the rated working pressure of the equipment for all equipment except the annular preventer.
6. The "high pressure" test for the annular preventer will be conducted at 70% of the rated working pressure.
7. A record of all pressures will be made on a pressure-recording chart.

II. Accumulator Performance Test

A. Scope

1. The purpose of this test is to check the capabilities of the Bop control systems and to detect deficiencies in the hydraulic oil volume and recharge time.

B. Test Requency

1. The accumulator is to be tested each time the BO's are tested, or any time a major repair is performed.

C. Minimum Requirements

1. The accumulator should be of sufficient volume to supply 1.5 times the volume to close and hold all BOP equipment in sequence, without recharging and the pump turned off, and have remaining pressures of 200 psi above the precharge pressure.
2. Minimum precharge pressures for the various accumulator systems per manufacturers recommended specifications are as follows:

System Operating Pressure	Precharge Pressure
1500 psi	750 psi
2000 psi	1000 psi
3000 psi	1000 psi

3. Closing times for the annular preventer should be less than 20 seconds and for the ram-type preventers less than 10 seconds.
4. System recharge time should not exceed 10 minutes.

D. Test Procedure

1. Shut accumulator pumps off and record accumulator pressure.
2. In sequence, close the annular and one set of properly sized pipe rams, and open the HCR valve
3. Record time to close or open each element and the remaining accumulator pressure after each operation.
4. Record the remaining accumulator pressure at the end of the test sequence. Per the previous requirement, this pressure should not be less than the following pressures:

System Operating Pressure	Remaining Pressure After Test
1500 psi	950 psi
2000 psi	1200 psi
3000 psi	1200 psi

5. Turn the accumulator pumps on and record the recharge time. This time should not exceed 10 minutes.
6. Open annular and ram-type preventers. Close HCR valve.
7. Place all 4-way control valves in full open or full closed position. Do not leave in neutral position.

3. **CASING PROGRAM**

- a. The proposed casing program will be as follows:

Purpose	From	To	Hole Size	Csg Size	Weight	Grade	Thread	Condition
Surface	0'	1,075'	17-1/2"	13-3/8"	48 #	H-40	STC	New
Shallow Intermediate	0'	4,000'	11"	8-5/8"	32 #	J-55	LTC	New
Production	0'	13,924'	7-7/8"	5-1/2"	17.0 #	P-110	BTC comp	New

- b. Casing design subject to revision based on geologic conditions encountered.

c. Casing Safety Factors

Casing String	Min SF Burst	Min SF Collapse	Min SF Tension
Surface	1.36	1.58	2.23
Shallow Intermediate	1.45	1.46	2.00
Production	1.4	1.77	2.32

Min SF is the smallest of a group of safety factors that include the following considerations:

	Surf	Int	Prod
Burst Design			
Pressure Test- Surface, Int, Prod Csg P external: Water P internal: Test psi + next section heaviest mud in csg	X	X	X
Displace to Gas- Surf Csg P external: Water P internal: Dry Gas from Next Csg Point	X		
Frac at Shoe, Gas to Surf- Int Csg P external: Water P internal: Dry Gas, 15 ppg Frac Gradient		X	
Stimulation (Frac) Pressures- Prod Csg P external: Water P internal: Max inj pressure w/ heaviest injected fluid			X
Tubing leak- Prod Csg (packer at KOP) P external: Water P internal: Leak just below surf, 8.7 ppg packer fluid			X
Collapse Design			
Full Evacuation P external: Water gradient in cement, mud above TOC P internal: none	X	X	X
Cementing- Surf, Int, Prod Csg P external: Wet cement P internal: water	X	X	X
Tension Design			
100k lb overpull	X	X	X

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 Eddy, NM

CONFIDENTIAL -- TIGHT HOLE

DRILLING PLAN
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5. CEMENTING PROGRAM

Slurry	Type	Top	Bottom	Weight	Yield	%Excess	Sacks
<u>Surface</u>				(ppg)	(sx/cu ft)	Open Hole	
Lead	C + 3% Gel	0'	975'	13.7	1.65	250	1348
Tail	C	975'	1,075'	14.8	1.33	250	213
<u>Intermediate</u>							
Lead	TXI + 5% Salt	0'	3,500'	12	1.99	250	1342
Tail	50C/50Poz +5% Salt	3,500'	4,000'	14.2	1.37	250	336
<u>Production</u>							
Lead	35/65Poz H +8% Gel	3,500'	8,795'	12.4	2.11	75	731
Tail	50/50Poz H +2% Gel	8,795'	13,924'	14.5	1.27	75	1229

1. Final cement volumes will be determined by caliper.
2. Surface casing shall have at least one centralizer installed on each of the bottom three joints starting with the shoe joint.
3. The production casing will be cemented in a single stage
4. Production casing will have one centralizer on every other joint from TD to KOP (horizontal type) and from KOP to intermediate casing (bowspring type).

Pilot Hole Plugging Plan: No Pilot hole

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CONFIDENTIAL -- TIGHT HOLE
Lease No:

DRILLING PLAN
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6. MUD PROGRAM

From	To	Type	Weight	F. Vis	Filtrate
0'	1,075'	Fresh Water	8.4 - 8.7	32 - 34	NC - NC
1,075'	4,000'	Brine	9.5 - 10.1	28 - 29	NC - NC
4,000'	8,795'	FW/Cut Brine	8.3 - 9.5	28 - 29	NC - NC
8,795'	9,545'	FW/Cut Brine	8.3 - 9.5	28 - 29	NC - NC
9,545'	13,924'	FW/Cut Brine	8.3 - 9.5	28 - 29	NC - NC

A closed system will be utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited

All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations.

A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

7. TESTING, LOGGING, AND CORING *See COA*

The anticipated type and amount of testing, logging, and coring are as follows:

- Drill stem tests are not planned.
- The logging program will be as follows:

TYPE	Logs	Interval	Timing	Vendor
OH	Triple Combo	Base of Curve- Int	After Curve	Baker Atlas
Mudlog	2 man mudlogging crew	Int Csg to TD	Int Csg Drill Out	Nomac
LWD	MWD Gamma	Curve and Lateral	While Drilling	Phoenix

- Core samples are not planned.
- A Directional Survey will be run.

8. ABNORMAL PRESSURES AND HYDROGEN SULFIDE

- No abnormal pressures or temperatures are expected. Estimated BHP is: 4098 psi
- Hydrogen sulfide gas is not anticipated.

Permian District

Poker Lake

PLU Big Sinks 1-25-30 USA 1H

Well #1

Wellbore #1

Plan: Plat

Standard Planning Report

28 June, 2012

EXHIBIT

6

Chesapeake Operating

Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Well Well #1
Company:	Permian District	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Project:	Poker Lake	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	PLU Big Sinks 1-25-30 USA 1H	North Reference:	Grid
Well:	Well #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat		

Project	Poker Lake, Eddy County, NM		
Map System:	US State Plane 1983	System Datum:	Ground Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	PLU Big Sinks 1-25-30 USA 1H		
Site Position:	Northing:	419,693.00 usft	Latitude: 32.152840
From: Map	Easting:	695,056.00 usft	Longitude: -103.836625
Position Uncertainty:	0.00 ft	Slot Radius: 13.200 in	Grid Convergence: 0.26 °

Well	Well #1		
Well Position	+N/-S	0.00 ft	Northing: 419,693.00 usft
	+E/-W	0.00 ft	Easting: 695,056.00 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	Ground Level: 0.00 ft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	IGRF200510	5/23/2012	7.58
			60.08
			48,493

Design	Plat		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.00

Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	0.15

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,794.53	0.00	0.00	8,794.53	0.00	0.00	0.00	0.00	0.00	0.00	
9,544.54	90.00	0.15	9,272.00	477.46	1.28	12.00	12.00	0.00	0.15	
13,924.10	90.00	0.15	9,272.00	4,857.01	13.00	0.00	0.00	0.00	0.00	BS 1-25-30 1H- BH

Chesapeake Operating

Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Well Well #1
Company:	Permian District	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Project:	Poker Lake	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	PLU Big Sinks 1-25-30 USA 1H	North Reference:	Grid
Well:	Well #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (%/100usft)	Build Rate (%/100usft)	Turn Rate (%/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

Chesapeake Operating

Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Well Well #1
Company:	Permian District	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Project:	Poker Lake	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	PLU Big Sinks 1-25-30 USA 1H	North Reference:	Grid
Well:	Well #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat		

Planned Survey:									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	N/S (ft)	E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,794.53	0.00	0.00	8,794.53	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.66	0.15	8,800.00	0.03	0.00	0.03	12.00	12.00	0.00
8,900.00	12.66	0.15	8,899.14	11.60	0.03	11.60	12.00	12.00	0.00
9,000.00	24.66	0.15	8,993.72	43.53	0.12	43.53	12.00	12.00	0.00
9,100.00	36.66	0.15	9,079.58	94.43	0.25	94.43	12.00	12.00	0.00
9,200.00	48.66	0.15	9,152.99	162.06	0.43	162.06	12.00	12.00	0.00
9,300.00	60.66	0.15	9,210.74	243.48	0.65	243.48	12.00	12.00	0.00
9,400.00	72.66	0.15	9,250.29	335.13	0.90	335.13	12.00	12.00	0.00
9,500.00	84.66	0.15	9,269.92	432.99	1.16	432.99	12.00	12.00	0.00
9,544.54	90.00	0.15	9,272.00	477.46	1.28	477.47	12.00	12.00	0.00
9,600.00	90.00	0.15	9,272.00	532.93	1.43	532.93	0.00	0.00	0.00
9,700.00	90.00	0.15	9,272.00	632.93	1.69	632.93	0.00	0.00	0.00
9,800.00	90.00	0.15	9,272.00	732.93	1.96	732.93	0.00	0.00	0.00
9,900.00	90.00	0.15	9,272.00	832.93	2.23	832.93	0.00	0.00	0.00
10,000.00	90.00	0.15	9,272.00	932.93	2.50	932.93	0.00	0.00	0.00
10,100.00	90.00	0.15	9,272.00	1,032.93	2.76	1,032.93	0.00	0.00	0.00
10,200.00	90.00	0.15	9,272.00	1,132.93	3.03	1,132.93	0.00	0.00	0.00
10,300.00	90.00	0.15	9,272.00	1,232.93	3.30	1,232.93	0.00	0.00	0.00
10,400.00	90.00	0.15	9,272.00	1,332.93	3.57	1,332.93	0.00	0.00	0.00
10,500.00	90.00	0.15	9,272.00	1,432.92	3.84	1,432.93	0.00	0.00	0.00

Chesapeake Operating

Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Well Well #1
Company:	Permian District	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Project:	Poker Lake	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	PLU Big Sinks 1-25-30 USA 1H	North Reference:	Grid
Well:	Well #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (%/100usft)	Build Rate (%/100usft)	Turn Rate (%/100usft)
10,600.00	90.00	0.15	9,272.00	1,532.92	4.10	1,532.93	0.00	0.00	0.00
10,700.00	90.00	0.15	9,272.00	1,632.92	4.37	1,632.93	0.00	0.00	0.00
10,800.00	90.00	0.15	9,272.00	1,732.92	4.64	1,732.93	0.00	0.00	0.00
10,900.00	90.00	0.15	9,272.00	1,832.92	4.91	1,832.93	0.00	0.00	0.00
11,000.00	90.00	0.15	9,272.00	1,932.92	5.17	1,932.93	0.00	0.00	0.00
11,100.00	90.00	0.15	9,272.00	2,032.92	5.44	2,032.93	0.00	0.00	0.00
11,200.00	90.00	0.15	9,272.00	2,132.92	5.71	2,132.93	0.00	0.00	0.00
11,300.00	90.00	0.15	9,272.00	2,232.92	5.98	2,232.93	0.00	0.00	0.00
11,400.00	90.00	0.15	9,272.00	2,332.92	6.24	2,332.93	0.00	0.00	0.00
11,500.00	90.00	0.15	9,272.00	2,432.92	6.51	2,432.93	0.00	0.00	0.00
11,600.00	90.00	0.15	9,272.00	2,532.92	6.78	2,532.93	0.00	0.00	0.00
11,700.00	90.00	0.15	9,272.00	2,632.92	7.05	2,632.93	0.00	0.00	0.00
11,800.00	90.00	0.15	9,272.00	2,732.92	7.31	2,732.93	0.00	0.00	0.00
11,900.00	90.00	0.15	9,272.00	2,832.92	7.58	2,832.93	0.00	0.00	0.00
12,000.00	90.00	0.15	9,272.00	2,932.92	7.85	2,932.93	0.00	0.00	0.00
12,100.00	90.00	0.15	9,272.00	3,032.92	8.12	3,032.93	0.00	0.00	0.00
12,200.00	90.00	0.15	9,272.00	3,132.92	8.39	3,132.93	0.00	0.00	0.00
12,300.00	90.00	0.15	9,272.00	3,232.92	8.65	3,232.93	0.00	0.00	0.00
12,400.00	90.00	0.15	9,272.00	3,332.92	8.92	3,332.93	0.00	0.00	0.00
12,500.00	90.00	0.15	9,272.00	3,432.92	9.19	3,432.93	0.00	0.00	0.00
12,600.00	90.00	0.15	9,272.00	3,532.92	9.46	3,532.93	0.00	0.00	0.00
12,700.00	90.00	0.15	9,272.00	3,632.92	9.72	3,632.93	0.00	0.00	0.00
12,800.00	90.00	0.15	9,272.00	3,732.92	9.99	3,732.93	0.00	0.00	0.00
12,900.00	90.00	0.15	9,272.00	3,832.92	10.26	3,832.93	0.00	0.00	0.00
13,000.00	90.00	0.15	9,272.00	3,932.92	10.53	3,932.93	0.00	0.00	0.00
13,100.00	90.00	0.15	9,272.00	4,032.92	10.79	4,032.93	0.00	0.00	0.00
13,200.00	90.00	0.15	9,272.00	4,132.92	11.06	4,132.93	0.00	0.00	0.00
13,300.00	90.00	0.15	9,272.00	4,232.92	11.33	4,232.93	0.00	0.00	0.00
13,400.00	90.00	0.15	9,272.00	4,332.91	11.60	4,332.93	0.00	0.00	0.00
13,500.00	90.00	0.15	9,272.00	4,432.91	11.86	4,432.93	0.00	0.00	0.00
13,600.00	90.00	0.15	9,272.00	4,532.91	12.13	4,532.93	0.00	0.00	0.00
13,700.00	90.00	0.15	9,272.00	4,632.91	12.40	4,632.93	0.00	0.00	0.00
13,800.00	90.00	0.15	9,272.00	4,732.91	12.67	4,732.93	0.00	0.00	0.00
13,900.00	90.00	0.15	9,272.00	4,832.91	12.94	4,832.93	0.00	0.00	0.00
13,924.10	90.00	0.15	9,272.00	4,857.01	13.00	4,857.03	0.00	0.00	0.00

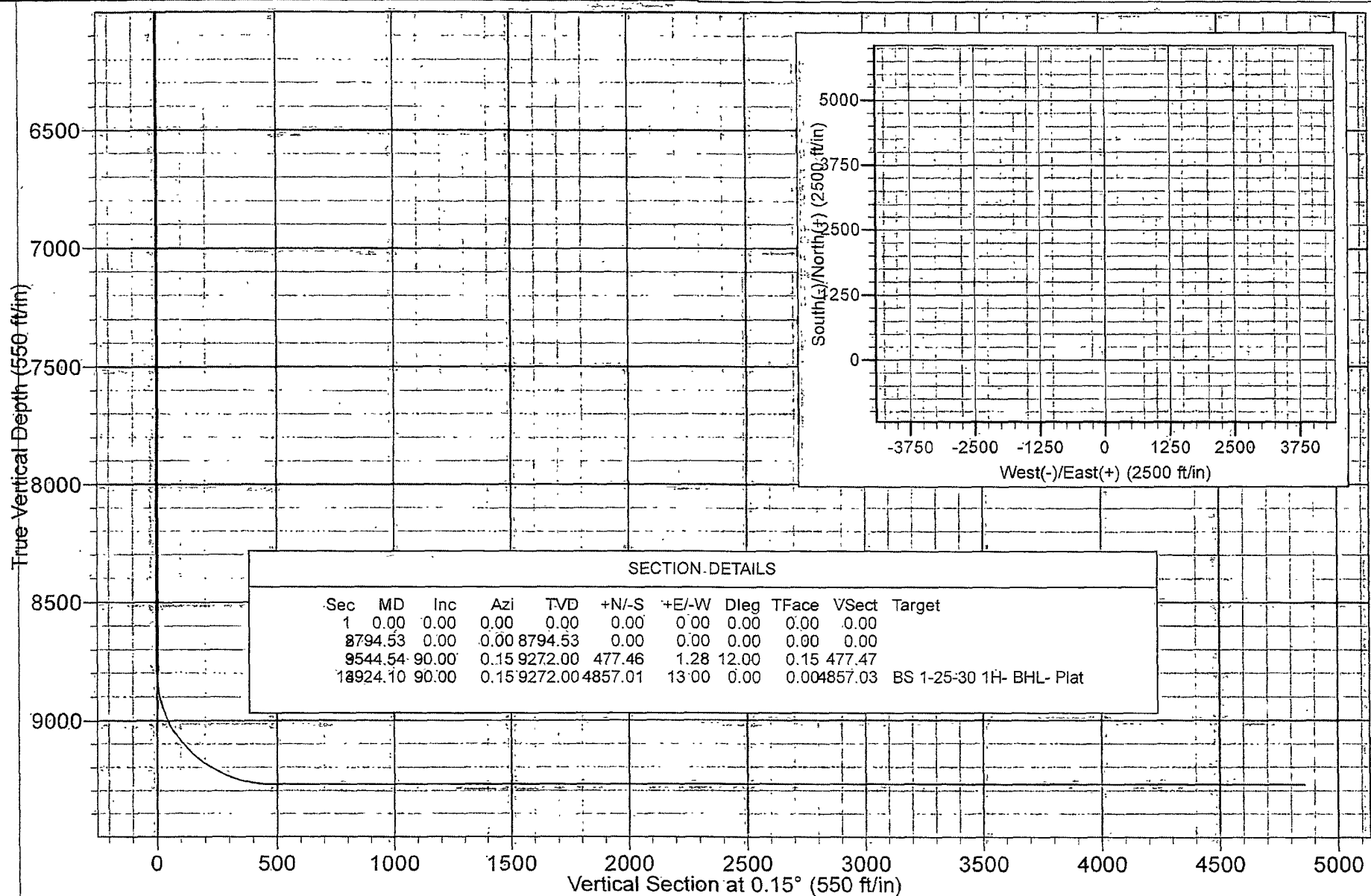
Design Targets

Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BS 1-25-30 1H- BHL-	- hit/miss target	0.00	0.00	9,272.00	4,857.01	13.00	424,550.00	695,069.00	32.166191	-103.836511
- plan hits target center										
- Point										
BS 1-25-30 1H- SHL-	- hit/miss target	0.00	0.00	9,272.00	0.00	0.00	419,893.00	695,056.00	32.152840	-103.836625
- plan misses target center by 198.01ft at 9177.67ft MD (9137.86 TVD, 145.65 N, 0.39 E)										
- Point										

Project: Poker Lake
Site: PLU Big Sinks 1-25-30 USA 1H
Well: Well #1
Wellbore: Wellbore #1
Design: Plat

PROJECT DETAILS: Poker Lake

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

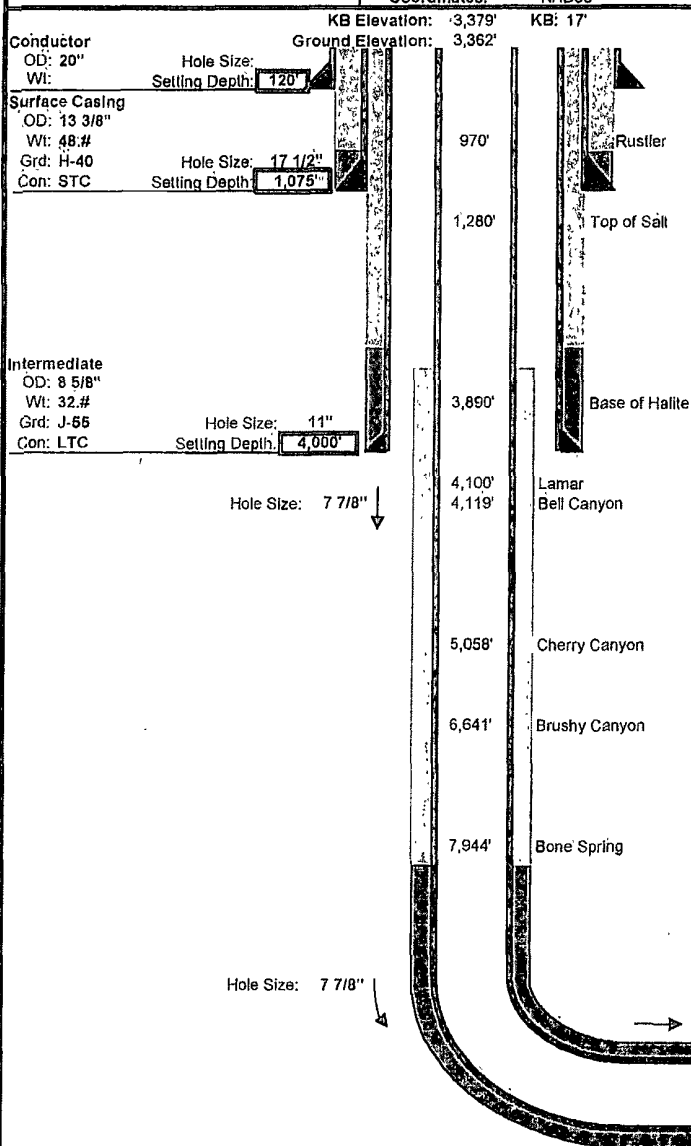




Drilling Engineer: Chris Gray
Superintendent: Daniel Gipson
Geologist: Chris Persellin

Well Name: PLU Big Sinks 1-25-30 USA 1H
Target:
County, State: Eddy, NM
Surface Location: 150' FSL 1980' FWL, Section 1, Township 25S, Range 30E
BH Location: 330' FNL 1980' FWL, Section 1, Township 25S, Range 30E
SHL Latitude: 32.152641 SHL North: 419693
SHL Longitude: -103.836624 SHL East: 695056
BHL Latitude: 32.166191 BHL North: 424550
BHL Longitude: -103.83651 BHL East: 695089
Coordinates: NAD83 Coordinates: NMSPCE

Drilling Rig: Trinidad 111
Directional: Phoenix
Drilling Mud: Nova
Cement: Schlumberger
Wellhead: Sunbelt
Property Number:
AFE Number:



Wellhead Equipment	
A Section	13-3/8" x 13-5/8" 5K SOW (Multibowl)
B Section	N/A (Multibowl)
C Section	11" 5K X 7-1/16" 10K w/10k gale valve
D Section	N/A
Required BOP Stack	13-5/8" 5K Double, Annular, Rot Head w/orbit valve

Mud				
Depth	Type	Weight	F. Vis	FL
0' - 1,075'	Fresh Water	8.4 - 8.7	32 - 34	NC - NC
1,075' - 4,000'	Brine	9.5 - 10.1	28 - 29	NC - NC
4,000' - 8,795'	FW/Cut Brine	8.3 - 9.5	28 - 29	NC - NC
8,795' - 9,545'	FW/Cut Brine	8.3 - 9.5	28 - 29	NC - NC
9,545' - 13,924'	FW/Cut Brine	8.3 - 9.5	28 - 29	NC - NC

Cement							
Slurry	Top	Btm	Wt	Yld	%Exc	Bbl	Sx
Surface							
Lead	0'	975'	13.7	1.85	250	396	1348
Tail	975'	1,075'	14.8	1.33	250	50	213
Intermediate							
Lead	0'	3,500'	12.0	1.89	250	475	1342
Tail	3,500'	4,000'	14.2	1.37	250	82	336
Production							
Lead	3,500'	8,795'	12.4	2.11	75	275	731
Tail	8,795'	13,924'	14.5	1.27	75	278	1229

LOGS	Type	Logs	Interval	Vendor
	OH	Triple Combo	Base of Curve- Int Shoe	Baker Atlas
	Mudlog	2 man mudlogging crew	Int Csg to TD	Nomac
	LWD	MWD Gamma	Curve and Lateral	Phoenix

Directional Plan						
Target Line:	9272' @ 0' VS w/90.0 deg Inclination					
Target Window:	20' above, 20' below, 50' left, 50' right					
	MD	INC	AZM	TVD	VS	DLS
KOP	8,795'	0.00	0.00	8,795'	0'	0.00
EOB	9,545'	90.00	0.15	9,272'	477'	12.00
TD	13,924'	90.00	0.15	9,272'	4,857'	0.00
Hardlines:	Lateral- 467' from parallel lease lines.					
	Vertical- Actual Lease Lines					
Notes:	Please note SHL and BHL distance from lease lines					

Production Casing
OD: 5 1/2"
WI: 17.8
Grd: P-110
Con: CDC (BTC compatible)

Setting Depth: 13,924'

Chesapeake Minimum BOPE Requirements

Wellname: PLU Big Sinks 1-25-30 USA 1H

Operation: Intermediate and Production Hole Sections

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

Permian District-Minimum Requirements

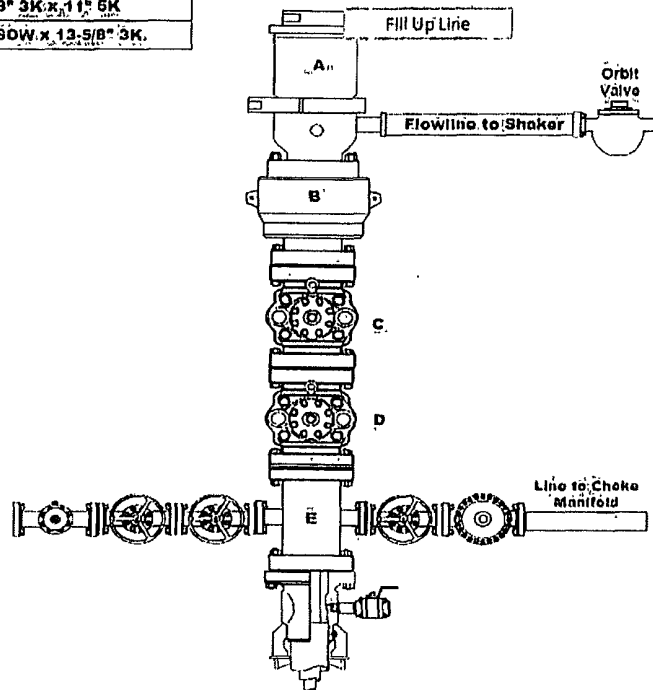
FIELD : Avalon

OPERATION: Intermediate and Production Hole Sections

SIZE	PRESSURE	DESCRIPTION
A	500	Rotating Head
B	13-5/8" 5,000	Annular
C	13-5/8" 5,000	Pipe Ram
D	13-5/8" 5,000	Blind Ram
E	13-5/8" 5,000	Mud Cross
F		
DSA	As required for each hole size	
C-Sec		
B-Sec	13-5/8" 3K x 11" 6K	
A-Sec	13-3/8" 50W x 13-5/8" 3K	

Test Notes:

- Pressure test to rating of BOP or wellhead every 21 days.
- Function test on trips
- H2S service trim required



Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	5,000	Check Valve
2"	5,000	Gate Valve
2"	5,000	Gate Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
3"	5,000	Gate Valve
3"	5,000	HCR Valve
3"	5,000	Steel Line Only

EXHIBIT F1

Chesapeake Minimum BOPE Requirements

Wellname: PLU Big Sinks 1-25-30 USA 1H

Operation: Intermediate and Production Hole Sections

CHOKE MANIFOLD SCHEMATIC

CHESAPEAKE OPERATING INC

Permian District

Avalon Minimum Requirements

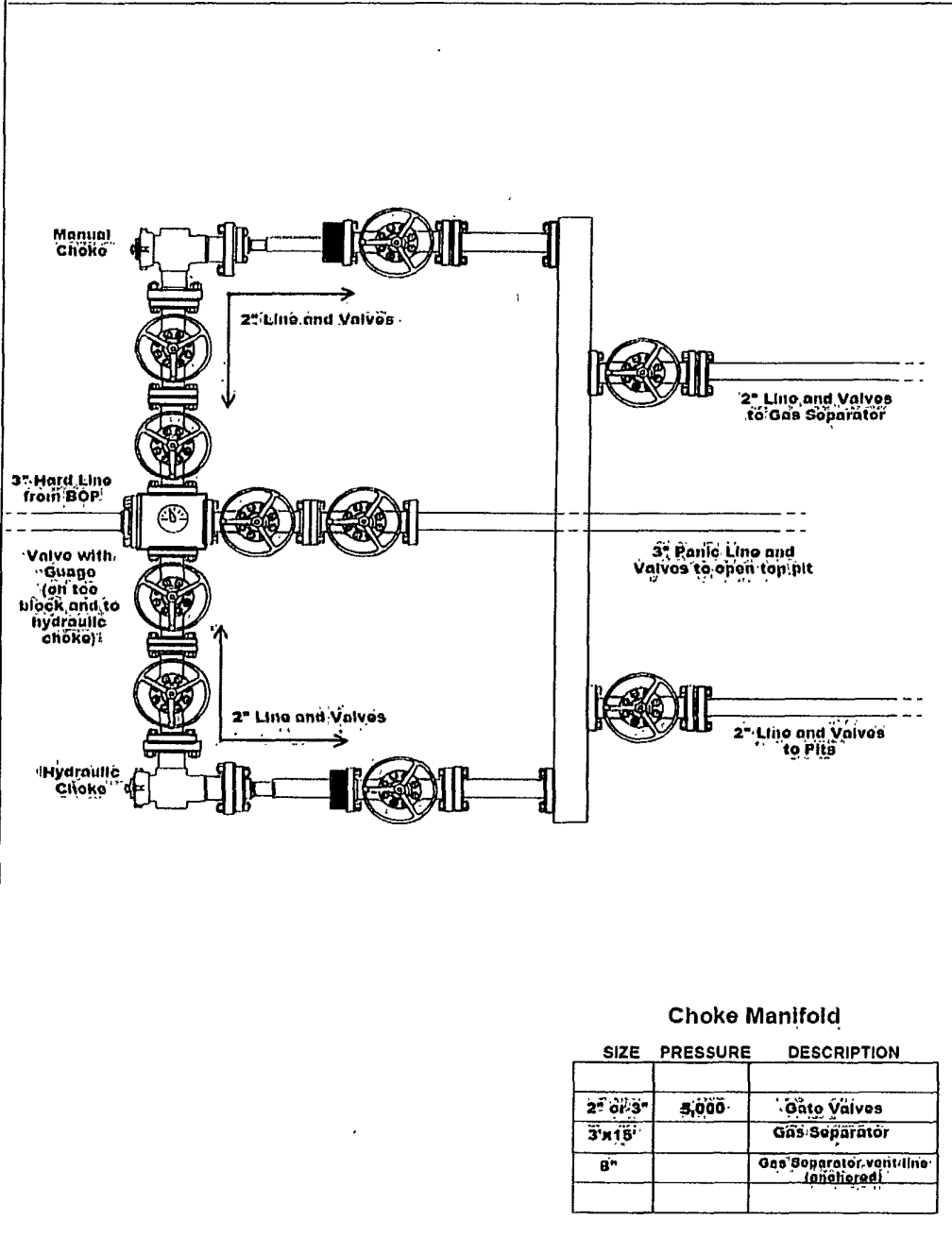


EXHIBIT F2



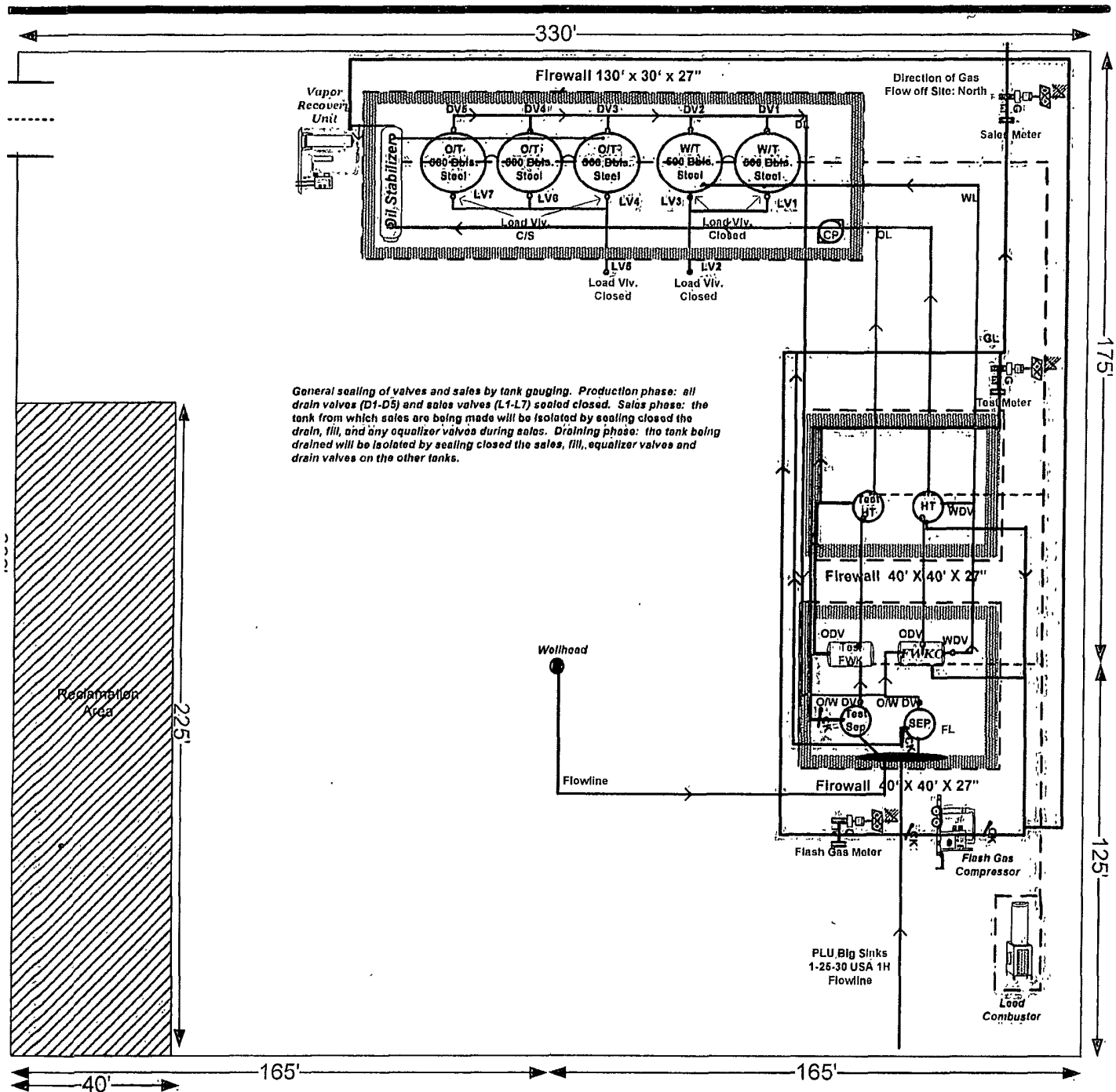
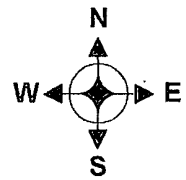
PLU Big Sinks 7-25-31 USA 1H

Property # 643671

Lat.: N 32.1518" – Long.: W 103.8189"

S07/T25S/R31E - 150' FNL & 1980' FWL

Eddy Co., New Mexico



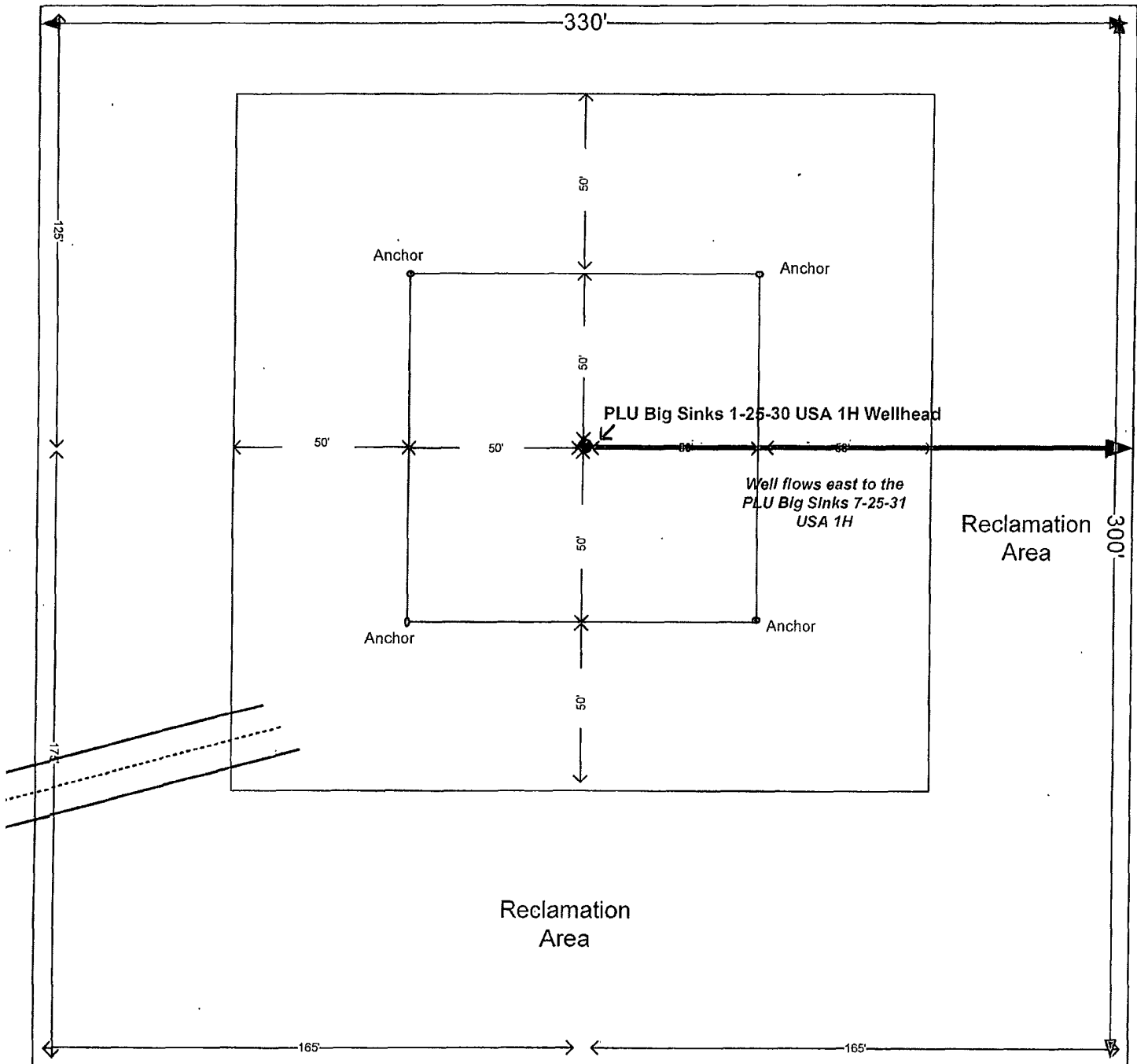
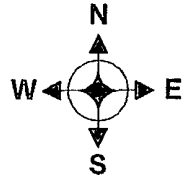
Prepared by: Donny Lowry
Date: 3/5/2012

This lease is subject to Chesapeake's Site
Security Plan located at 6100 N. Western
Oklahoma City, OK 73118

All equipment shown will be on location,
but subject to changes in positioning



PLU Big Sinks 1-25-30 USA 1H
Property Number: 645559 Pad Site Number: 919985
Section 1 – T25S – R30E 150' FSL & 660' FWL
NAD 27 Lat.: 32.1527 – Long.: 103.8361
Eddy County, New Mexico



Drawing not to scale

This lease is subject to
Chesapeake's Site Security Plan
located at 6100 N. Western
Oklahoma City, OK 73118

Prepared by: Donny Lowry
Date: 5/29/2012

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CHESAPEAKE OPERATING FOR BOPCO, LLC
LEASE NO.:	NM030456
WELL NAME & NO.:	PLU BIG SINKS 1 25 30 USA
SURFACE HOLE FOOTAGE:	150'/S. & 1980'/W.
BOTTOM HOLE FOOTAGE:	330'/N. & 1980'/W.
LOCATION:	Section 1, T. 25 S., R. 30 E., NMPM
COUNTY:	Eddy County, New Mexico

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Lesser Prairie-Chicken Timing Stipulations
 - Ground-level Abandoned Well Marker
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - Medium Cave/Karst
 - Logging requirements
 - Waste Material and Fluids
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**